BENTON-FRANKLIN HEALTH DISTRICT

OUTBREAK REPORT

BENTON-FRANKLIN HEALTH DISTRICT FOOD SAFETY DEPARTMENT

FOODBORNE OUTBREAK AT A LOCAL RESTAURANT

What Happened?

A recent outbreak of norovirus, affecting at least 26 people, has been linked to an ill food worker at a local Tri-Cities restaurant (Restaurant A). After two weeks of investigation, the Benton-Franklin Health District determined that an ill food worker likely spread the virus to diners through preparation of bar drinks.

The Health District oversees that safe food is served to the community and often receives complaints of a single person getting ill after eating food. This report, detailing the norovirus outbreak at Restaurant A, gives a glimpse into how the Health District investigates when a foodborne outbreak occurs—or in other words, when multiple reports of illness are received relating to a common food or common restaurant. This report will be used as an educational tool for inspectors and local food establishments looking to prevent future foodborne outbreaks in our community.

HOW DOES THE HEALTH DISTRICT INVESTIGATE AN OUTBREAK?

Each foodborne outbreak that the Health District investigates is is unique. Different settings, germs, and illness outcomes mean that each investigation is handled in a tailored way. There are, however, four actions that a complete investigation typically includes—intake, investigation, control of the outbreak, and remediation. This report will highlight how the Health District responded to the outbreak at Restaurant A at each of these steps.

"There are four actions that a complete investigation typically includes--intake, investigation, control of the outbreak, and remediation."

Intake

On Sunday, February 17, 2019 (President's Day weekend), the Health District received multiple reports of foodborne illness from patrons who dined at Restaurant A on either Friday, February 15, or Saturday, February 16.

Two non-related parties reported dining during a similar mealtime, consuming similar food and drink, and noted that a large majority of their party members developed severe gastrointestinal illness over the weekend.

The Health District started interviewing the ill diners about their meals consumed, their illness symptoms, details of their meal histories, and potential connections to other ill diners. When illness intake reveals that either multiple people or multiple households may be linked to a single restaurant, as it did in this case, investigation actions are started immediately.

Investigation

After intake on Sunday revealed a potential outbreak, the Health District began the investigation by conducting a site visit at the restaurant that same day and conducted a second site visit the next day. By the morning of Monday, February 18, a third party of diners reported falling ill after dining at Restaurant A in the same period as the first two reporting parties. Due to the number of reports received at this point, Restaurant A was asked to close. The owner immediately agreed to closure—a proactive move that later proved to be an important factor in stopping the outbreak.

At the Health District offices, staff continued interviews of food workers and ill patrons. By the conclusion of the investigation, 26 of the 31 people interviewed, from 10 separate dining parties, reported illness (vomiting, diarrhea, cramps, etc.) within 72 hours of eating at Restaurant A that weekend.

After interviewing all the identified diners and food workers, the Health District requested stool samples from ill diners, and required stool samples from food workers.

"By the conclusion of the investigation, 26 of 31 the people interviewed, from 10 separate dining parties, reported illness."

During this outbreak, 11 stool samples were collected for testing —seven from ill diners, and four from food workers. The Washington State Public Health Laboratory analyzed the stool samples and results revealed that eight out of the 11 submitted samples were positive for norovirus. Two of the four food workers sampled, both bartenders, were positive for norovirus.

Control of the Outbreak

When an outbreak investigation begins (before laboratory testing is completed) the Health District sorts through all of the intake interviews to determine the likely cause of the outbreak. At the least, if the type of germ causing the outbreak can be identified, special control measures can be tailored and put in place to stop the outbreak. Early in the investigation, the Health District noted that the features of the germ causing illness in this outbreak were consistent with a virus, with norovirus being the most likely, so viral control measures were put in place immediately.

The first control measure in this outbreak was closure of the restaurant. The restaurant was asked to close for at least 48 hours to stop the spread of the virus. If food workers are ill, the 48-hour restaurant closure gives the virus time to run its course through the workers' bodies and decreases the chances of them spreading it to co-workers or customers.

The second control action in the case of viral outbreaks is environmental control. The Health District required Restaurant A to clean and sanitize every surface in the facility and to discard any open food that may have been handled by an employee.

NOROVIRUS

is the leading cause of foodborne illness in the United States. It causes 58% of foodborne illnesses acquired and costs about

$2 BILLION ANNUALLY

Remediation

After an outbreak, the Health District must determine why the outbreak happened and consider what can be done to prevent a similar outbreak from happening again. In this case, several potential avenues of transmission were investigated including social connections, environmental spread, contaminated food/ beverages, and ill food workers. After intake, investigation and lab findings (two infectious food workers identified), it was determined that the virus was most likely spread from an ill food handler working behind the bar.

Remediation efforts focused primarily on two areas—improving employee illness policies and reducing bare-hand contact with bar garnishes. During the investigation, it was noted that the infectious employee who worked on Friday, the night most ill patrons ate, returned to work less than 12 hours after they had an episode of diarrhea that same weekend. This indicated that while illness policies on paper were strongly adherent to code, additional training was necessary to improve illness reporting and exclusion culture in the facility. The Health District conducted an educational visit with the staff, worked with the facility to strengthen their illness policies, and asked the facility to retrain staff on the new policies.

Bare hand contact with bar garnishes was also identified as a potential gap in this facility. Time constraints often drive bartenders to skip using ice scoops or barriers, like toothpicks or tongs, to apply drink garnishes, Bartenders interviewed stated that garnishes were sometimes handled with bare hands. Some reported a particular practice with mint that involved slapping mint leaves between their two palms to “open up” the cells of the mint leaves before adding them to a drink. Because norovirus has an extremely low infectious dose (<20 viral particles), even incidental hand contact like this can lead to spread of the virus if the bartender is infectious, as was suspected in this case. The facility was asked to review all of their bare hand contact procedures with bartenders, with specific emphasis on changing practices like the mint procedure, as well as increased monitoring of bartenders during busy times.

Discussion

Both infectious food workers exhibited symptoms of norovirus over the weekend of February 15-17, but neither perceived themselves as being "ill" because the duration of their symptoms were short-lived. Additionally, one food worker returned to work less than 12 hours after having had diarrhea (current regulations require a 24-hour exclusion after symptoms stop). This detail is an important reminder of why many states, including Washington, require the use of gloves or tongs when handling ready-to-eat foods. Norovirus is highly infectious—infected individuals can shed billions of viral particles per gram of stool, while less than 100 norovirus viral particles are needed to cause infection (1). Norovirus can also be spread asymptomatically—that is, an infected food handler may not ever show symptoms, yet they are able to easily spread the virus through their stool (2). Additionally, and a potentially important factor in this outbreak, up to 30% of people that do exhibit symptoms of norovirus will begin shedding the virus before their symptoms begin (3). When a food handler is unaware they are infectious with a virus that is easily spread through hand contact, gloves and utensils are necessary tools to reduce the chance of spreading the virus.

WHAT HAPPENS AFTER AN OUTBREAK?

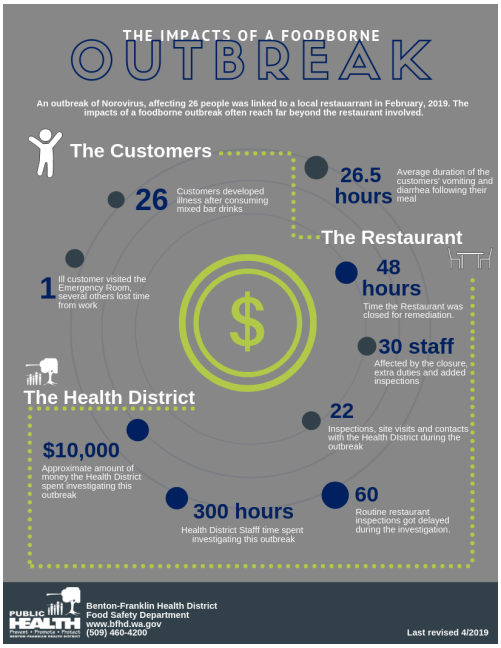
The impact of an outbreak is heavy on everyone involved and can often be felt long after the outbreak is over. In this case, the 26 patrons who fell ill likely lost time from work or spent money visiting the doctor or Emergency Department. The restaurant likely lost revenue through closure, staff time, and food disposal, and the Health District spent an estimated 300 hours of staff time on intake, investigation, control, and remediation of this outbreak.

Overall, a lot of time (and money) has been invested in this outbreak, While all of the time, effort, and collaboration between the public, the Health District, and the restaurant were necessary to immediately slow the spread of this outbreak, the Health District will follow up with the facility in coming months to ensure that remediation efforts are still in place. Inspectors have conducted two educational visits at the facility and will return to a routine compliance schedule with the facility soon.

NOROVIRUS RESOURCES

Come visit the Benton-Franklin Health District's newly redesigned website at www.bfhd.wa.gov where you can access these Norovirus related resources and more. Fact sheets, publications and educational materials are being updated soon! To access more norovirus resources, or learn more about norovirus symptoms, prevention and trends, visit the Centers for Disease Control and Prevention here.

Impact of an Outbreak infographic



Norovirus Cleanup Fact Sheet

Sources

(1) Centers for Disease Control and Prevention. "Norwalk-Like Viruses, Public Health Consequences and Outbreak Management." Morbidity and Mortality Weekly Report. June 01, 2001 / 50(RR09);1-18. Retrieved from https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5009a1.htm.

(2) Teunis, et. al. "Shedding of Norovoirus in Symptomatic and Asymptomatic Infections" Epidemiology and Infection. 2015 Jun;143(8):1710-7. Full text available online at https://www.ncbi.nlm.nih.gov/pubmed/25336060

(3) Glass, R, Parashar, U.D., and Estes, M.K., “Norovirus Gastroenteritis,” New England Journal of Medicine, Vol. 361, No. 18, pp. 1776-1785 (Oct. 29, 2009). Full text available online at http://www.sepeap.org/archivos/pdf/11191.pdf